City of Albuquerque
Environmental Health Department Director - 768-2600

Albuquerque/Bernalillo County Air Quality Control Board
768-2600

Air Quality Division Manager
768-1972
.
Important Phone Numbers

Air Quality Index & Pollen
768-4731 opt 1 or 766-7664
Burn/No Burn 768-BURN (2876)

Ambient Air Monitoring - 768-1969
- National Ambient Air Quality Standards
- AQI & Seasonal Pollen

Compliance & Field Enforcement - 768-1972
- Facility Inspection
- Topsoil Disturbance
- Compliance Assurance
- Asbestos Abatement
- Open Burn Permits
- Woodburning Exemptions

Education, Outreach & Technical Assistance - 768-1970
- Pollution Prevention
- Emergency Preparedness
- Community Outreach
- Small Business Assistance
- *The Air Shed* Newsletter

Permitting & Emission Inventories - 768-1972
- Application Review & Permit Issuance
- Permitting Policy / Development
- Ambient Air Dispersion Modeling
- Emission and Pollutant Inventories
- Aerometric Information Retrieval System [AIRS]

Control Strategies - 768-2600
- Development of Air Quality Regulations
- Preparation of State Implementation Plan elements
- Air Quality Control Board
- Review Federal environmental assessments

Public Health Initiatives - 767-5621
- Air Quality Complaints
- Indoor Air

Quality Assurance - 768-1963
- EPA Reporting
- Review & Validation of Data
- Air Quality Trends Analysis

Vehicle Pollution Management - 764-1110
- **Vehicle Emissions Testing**
- **Oxy-Fuels**
- **Smoking Vehicles**

Message From The Mayor

Commuter Rule

Mayor Martin J. Chávez

The air that you and I breathe respects no political boundaries. It's a shared commodity. The breath you just took will be breathed by someone else tomorrow and has already been breathed many times before. While it's tempting sometimes to put the blame for poor air quality on this business or that community, in truth, each of us bears a portion of the responsibility for the quality of the air we breathe. Like it or not, we're in this together.

Commerce spills across political boundaries as well. No city, county or state can exist in isolation. Money earned in one community is often spent in another. The tranquility provided by living in suburbia is usually purchased at the expense of having to commute in and out of town for a job. We are dependent on one another and we cross political boundaries as freely as the air we breathe. It's the stuff of the American dream.

Sometimes the implementation of an air quality regulation doesn't work well when applied to individual communities at the local level. Such regulations fail to take into account the movement of people and commerce across political boundaries. It's been our history in the Albuquerque area that the responsibility for improving the whole region's air quality has been shouldered by one county alone (Bernalillo), while the pollution came from sources both within and outside of Bernalillo County.

By far, the largest single contributor to our local air pollution is the automobile. That's why Bernalillo County residents have been required to have their vehicles emissions tested ever since Bernalillo County violated Federal ambient air quality standards decades ago. But people whose vehicles were registered outside of Bernalillo County were exempt from emissions testing even though their vehicles were driven into and operated within Bernalillo County on a daily basis. In our situation, Federal law put the onus for violations of the Clean Air Act on Bernalillo County while excluding neighboring counties from implementing carbon monoxide control strategies of their own. That's why it's up to us to find ways to make those Federal laws make sense here.

Recent amendments to our local air quality regulations now require that **all** motor vehicles, which are more than four years old and are driven into, operated in, or are otherwise present in Bernalillo County for 60 or more days per year but are registered in another county or state, must be emissions tested. If that describes your vehicle and its use, then you must have your vehicle emissions tested to comply.

Vehicle Pollution Management Division (an arm of the City's Environmental Health Department) is charged with enforcing the regulation. The State of New Mexico Motor Vehicle Department will deny vehicle registration renewal to non-compliant vehicles. To have your vehicle tested, simply take it to any of the City-certified Air Care Stations. The tests can usually be performed in less than an hour and test fees average between $15.00 and $25.00. For information about emissions testing and locations of testing facilities, contact Vehicle Pollution Management Division at 764-1110 or visit their website at http://www.cabq.gov/aircare/ or contact the Environmental Health Department at 768-2600.

AIR QUALITY CONTROL BOARD REPORT

Summary of Activities*
January 12, 2005 Meeting of the Albuquerque/Bernalillo County Air Quality Control Board

Members Present:

Dr. Betty Chang, Vice Chair
Dr. Johnnye Lewis
Dr. Donald Naranjo
Ms. Sue Umschler, Esq., Chair
Ms. Karen Wentworth

Action Items:

Decision regarding Resolution #2005-1, *Reasonable Notice of Public Meetings of the Board.* Motion passed 4-0.

Air Quality Division request for hearing to amend 20.11.3 NMAC, Transportation Conformity. Board approved the hearing request and plans to hold the hearing in April or May.

Mr. Isreal Tavarez of the Air Quality Division reported on National Radon Action Month and the upcoming Fugitive Dust control Workshops and Certification Training. Mr. Dan Warren reported on publication of the *2005 Compilation of AQCB Regulations.* Ms. Adelia Kearny reported on the status of the draft Rulemaking Procedure regulation and the draft Ad judicatory Procedure regulation for the Board.

Mr. Glen Dennis of the Vehicle Pollution Management Division reported on the status of the commuter rule, the pending Administrative Instruction to be issued by the Chief Administrative Officer regarding the commuter rule, the shifting emphasis of the program toward gas audits of emissions analyzers, and the need to amend 20.11.102 NMAC, Oxyfuels, and the status of oxygenated fuels testing and compliance.

Board Member Lewis will be tracking three bills of interest to the Board through this session of the state legislature. The bills deal with cumulative risk, the precautionary principle and stringency of air quality standards.

Presentations and Recommendations:

Public comment was received by the Board from Mr. Guy Worthington and Mr. Greg Howland regarding the performance of the new BAR97 emissions analyzers. The Board requested that Vehicle Pollution Management Division provide the Board with recommendations regarding amendments to 20.11.102 NMAC, Oxyfuels, along with a schedule and to apprise the Board regarding the performance of the emissions analyzers.

In response to requirements laid out in the federal regional haze regulation requiring that states remove barriers to alternatives to open burning, Air Quality Division suggested the Board consider allowing certain types of incinerators as alternatives to open burning.

Albuquerque / Bernalillo County Air Quality Control Board

Board Members & Staff
Stephen Pilon, City
Karen Wentworth, County
Johnnye Lewis - County
Sue Umshler - County (Chair)
Betty Chang - City (Vice Chair)
Donald Naranjo - City
Vacant - City

Martin J. Chávez, Mayor
City of Albuquerque

Alfredo Santistevan, Director
Environmental Health Department

Isreal L. Tavarez
Air Quality Division Manager/
Secretary to the Board

Adelia Kearny
Assistant City Attorney

Glen Dennis
Vehicle Pollution Management Division Manager

Jens Deichmann
Environmental Planning Commission Liaison

Monthly Board Meetings
Board meetings are usually held the second Wednesday of each month at 5:15 p.m. in the Council/Commission Chambers, lower level, Albuquerque/ Bernalillo County Government Center, 1 Civic Plaza, 400 Marquette Avenue NW Albuquerque, NM.

Agendas, which will show the correct date and meeting place, are generally available three days before the meeting and can be obtained by contacting Mr. Neal Butt at 505-768-2660 or via e-mail at: nbutt@cabq.gov.

Notice to persons with disabilities: If you have a disability and require special assistance to participate in any Board meeting please call the Air Quality Division at 505-768-2600 (Voice) or 505-768-2482 (TTY)

Vehicle Pollution Management Division Report

The "Air Care Facts 2005" brochure has been updated and printed and will be available in all area MVD offices. The trifold brochure provides basic information about emission testing requirements, time extensions for major repair, filing a smoking vehicle complaint, and a list of Air Care stations by quadrant.

The Division participated in the Junior Achievement program's Job Shadow Day by hosting a student from Rio Grande High School who had expressed an interest in attending TVI to become an automotive repair technician. During his half day visit, Carlos learned about the history of air pollution and emission testing in Albuquerque, was able to look under the hoods of a variety of alternative fueled vehicles, learned how to collect gasoline samples for oxygenate analysis, learned how to retest failing and repaired vehicles using both the On-Board Diagnostic test and the two-speed idle exhaust test, and learned how to conduct a gas audit on the emission testing equipment.

The Division continues to conduct gas audits and work with the manufacturer to resolve the apparent calibration drift in the new analyzers. While gas audit results can vary significantly on the same analyzer within an hour or two, the actual test results on a given vehicle are very consistent within an analyzer and between different analyzers (both across town and with the referee center analyzers). This suggests that there may be a problem with how the analyzer sees or records the gas audit results but not with actual emission test results. However, it is still critical that the issue be resolved so that VPMD can conduct an effective gas audit program for quality assurance and consumer protection purposes. To this end the Division has ordered additional gas audit supplies and equipment.

Air Care Inspector Training Program:

Only five students attended the January inspector certification course. All five passed both the written and practical examinations and became certified Air Care inspectors.

Alternative Fuels Update:

The Division continues to collect gasoline samples and send them to the NM Petroleum Standards Bureau Laboratory for oxygenate analysis. Thirty (30) samples were collected in late January and early February with preliminary results indicating that only 2 of the 30 were below 2.5% oxygen by weight. These results are a significant improvement over the early season results in November when 12 notices of violation were issued from a total of 40 samples.

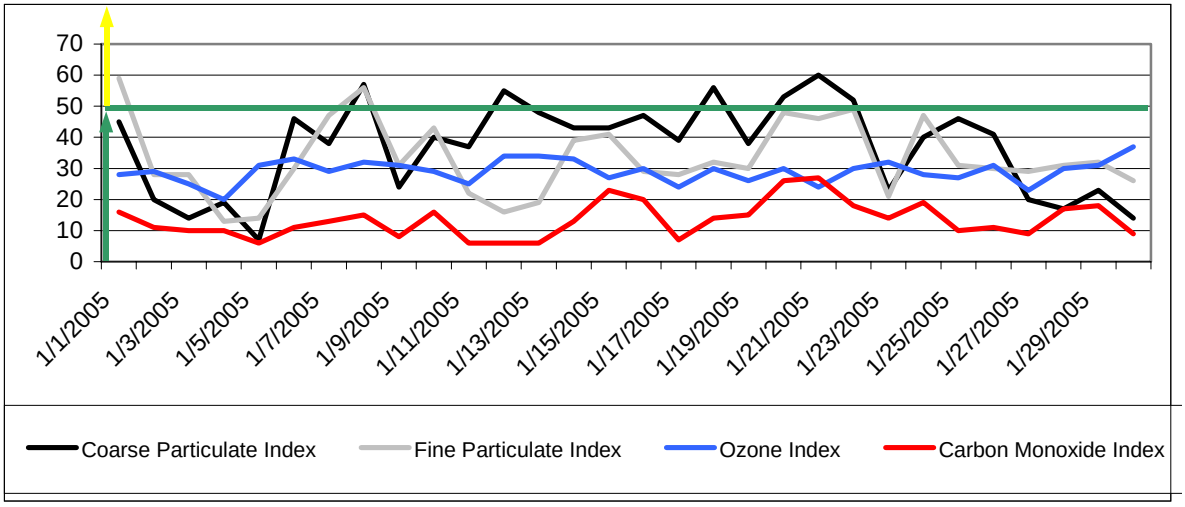
New Mexico's lone ethanol plant is about to double in size. The Abengoa Bioenergy Corporation plant in Portales is undergoing an expansion financed with industrial revenue bonds. When complete, the plant will process 11 million bushels of grain sorghum into 30 million gallons of ethanol and almost 90,000 tons of distillers grain each year.

AIR QUALITY DATA FOR JANUARY, 2005

The Air Quality Index [AQI] values indicate how clean or polluted ambient air is, and if there are any health concerns associated with a specific value. The AQI in Bernalillo County is measured for four [4] nationally regulated air pollutants: Carbon Monoxide [CO], Ozone [O_3], Coarse Particulate [PM10] and Fine Particulate [PM2.5].

As shown by the graph below, AQI values were "Good" to "Moderate" in January, which means that air pollutants at this level pose little or no health risks to our community, but those members of our community who already have respiratory problems may be slightly affected. Thus, as the values increase into a higher category, health risks will similarly increase. As you may have guessed, the last category, "Hazardous", with AQI values greater than 300, is very serious and can be detrimental to the health of the whole community even if emergency health warnings are triggered. Call the Air Quality Information Line at 766-7664 or 768-4731 Option 1 to get today's AQI Values.

AIR QUALITY INDEX
Hazardous > 300
Very Unhealthy 201 - 300
Unhealthy 151 - 200
Unhealthy for Sensitive Groups 101 - 150
Moderate 51 - 100
Good 0 - 50



Ozone Hole May Be Shrinking

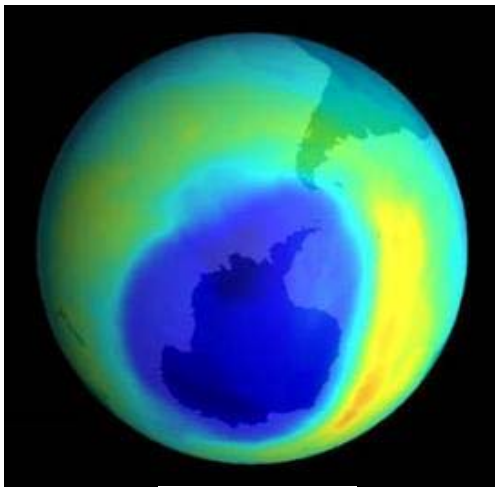


Image Courtesy of NASA

Widespread use of chlorofluorocarbons (CFC) during the first half of the twentieth century as air conditioning refrigerants and as propellants in aerosol sprays among other uses led to continual releases of these chemicals into the atmosphere. The CFCs eventually migrated into the stratosphere where they proved damaging to Earth's ozone layer, a phenomenon first noted in the 1980s. Popularly known as an ozone hole, the phenomenon actually consists of a global thinning of the ozone layer with the most notable thinning over Earth's poles. The 'hole' over Earth's southern pole eventually covered more than 9 million square miles, an area roughly the size of the whole North American continent.

Ozone in the upper atmosphere protects Earth from the harmful effects of ultraviolet (UV) rays. UV rays have been linked to various types of skin cancers, cataracts, even to genetic mutations. Concerns about the ozone depletion eventually led to a series of international regulations which, in turn, led to an eventual ban on CFC production and use.

Now, images of the ozone hole shot from space by Nation Aeronautics and Space Administration (NASA) satellites would seem to indicate that the ozone hole may be shrinking.

While the latest images would appear to indicate that the ozone layer is getting smaller, it is inappropriate to claim victory just yet. There are many meteorological variables that play into the condition of the ozone layer from year to year and it's possible that recent images are not representative of any kind of trend. Even if the images do show a downward trend in the size of the ozone depletion, scientists believe it will take at least until 2060 before the ozone layer can be restored.

Puny Particles Possess Prodigious Power

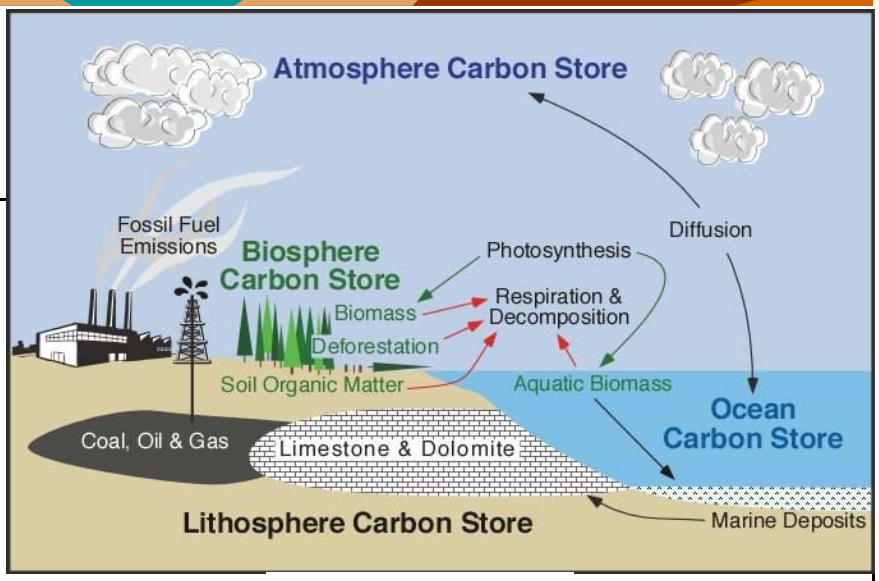
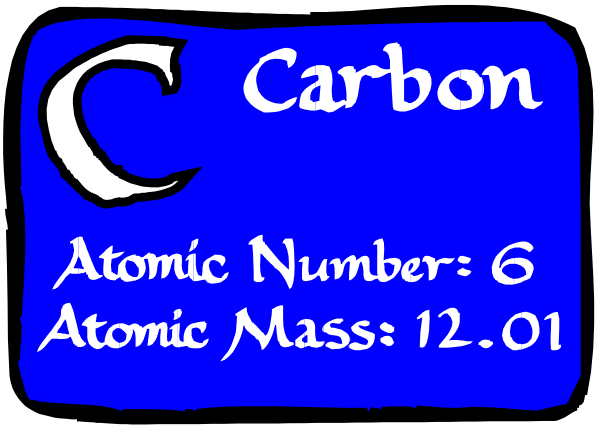


Chart Courtesy of PhysicalGeography.net

Sometimes it's the little things that make a difference. Sometimes the things that make a difference are things we can't even see. There's ever-mounting evidence that very small, even invisible particles, when suspended in the air we breathe, can have dramatic impacts on the quality of the air in regard to public health, on long-term global climate, even on fundamental earth systems like the carbon cycle. Consider first how fine particulate seems to influence the carbon cycle.

Carbon is a basic building block of life but it hasn't been around forever. Carbon is formed when stars die violent deaths. The early universe was devoid of carbon. Only after several generations of stars met their fates in fiery supernova explosions was enough carbon synthesized to account for current levels. It seems we are made of star stuff. Once formed, carbon is pretty durable. It moves through the environment in something called the carbon cycle. Much of the Earth's store of carbon is locked up in 'sinks' such as deposits of coal, petroleum, natural gas. It's locked up in carbonate rock like limestone and coral. It's dissolved in the oceans.



Carbon enters the biotic environment through the action of autotrophs, primarily photoautotrophs like plants that use the energy of light to convert carbon dioxide to organic matter - photosynthesis. Animals, in turn, feed upon the plants. Carbon is returned to the atmosphere through combustion, respiration and decay. It's a delicate balance. Since the dawn of the industrial revolution, man's activities, mainly industrial processes and combustion, have upset the balance. The engines of society extract carbon from sinks and transfer it to the atmosphere in the form of carbon dioxide. Since measurement of atmospheric carbon dioxide began in the late nineteenth century, its concentration has risen over 20%, no doubt due to anthropogenic activities. Since carbon dioxide is very effective at trapping escaping heat from Earth's surface, the increase of atmospheric carbon dioxide has caused global temperatures to rise by ~0.6ºC in the last century. That may not seem like much but critical Earth systems are very sensitive to temperature and variations of only a couple of degrees can spell trouble. But what role do particles play in all of this?

Very small particles suspended in the air (aerosols) appear to influence the rate at which carbon is absorbed by plants in complex ways. Aerosols are very efficient at scattering sunlight without preventing it from reaching ground level. Rather than just blocking incoming sunlight like clouds do, small particles allow the light to penetrate to lower levels but diffuse and scatter the light. The diffuse light reaches leaves in lower growth canopies where it might not otherwise reach. Special cells in the leaves of the plants called stoma can open wider in the diffuse light to let in more carbon dioxide, increasing photosynthesis and stepping up the intake of

(Continued from page 6)

carbon. The diffuse light is good for the plants in the lower canopies and can lead to increased vegetation. More vegetation leads to more photosynthesis which leads to more carbon dioxide being purged from the atmosphere. The effect is more noticeable in forests and croplands than in grasslands since grasslands don't have the complex canopies typical of forests and croplands.

Very small particles have very large influences even over long distances. Consider the photograph on the right. Taken in February, 2000 during a dust storm, the photo shows dust from the Sahara Desert being blown out over the Atlantic Ocean. The finest of these dust particles can remain airborne for days at a time and are frequently transported from Western Africa all the way to Florida where they become players in Florida's convective thunderstorms.

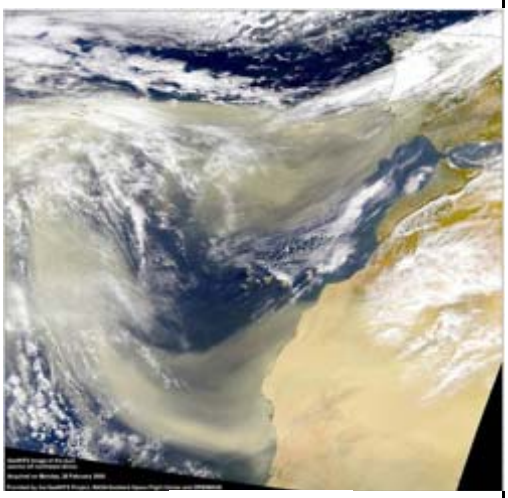


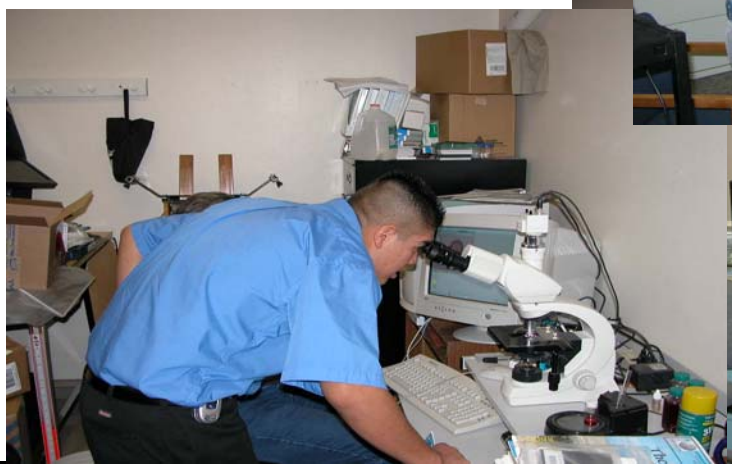
Image courtesy of NASA

When African aerosols are present in Florida's skies, convective thunderstorms are more frequent. In the presence of the African dust, the 'anvils' that form the tops of storm clouds tend to be smaller but denser. Smaller clouds tend to let more sunshine through which could have effects on long-term climate. Smaller clouds tend to drive temperatures up.

Small particles form condensation nuclei, solid cores around which moisture condenses. In clouds, these droplets can ordinarily combine to form raindrops which then fall to the ground. Moisture present in the air competes for condensation nuclei on which to clump. When African dust is abundant in the air, less moisture is available per nuclei and the resulting droplets are smaller. Smaller droplets are less likely to clump sufficiently to form raindrops. As a result, the more dust that's present in the air, the less rain that falls even though thunderstorms are more frequent.

Students "Job Shadow"

On Wednesday February 2, 2005, two lucky students from local high schools spent the day "shadowing" staff from Air Quality Division, learning the ropes. The effort was part of Junior Achievement Day. Students were provided overviews of the Fugitive Dust; Ambient Air Monitoring; Ozone, Carbon Monoxide and Particulate Matter Forecasting; Pollen; Public Health Initiatives; and the Education, Outreach, and Technical Assistance Programs.



February 2005

Say AAAHHHHHH!
Your vehicle that is!

Get your vehicle's emissions checked at any one of 120 Air Care Stations near you!

It's a healthy habit, and it's necessary to keep our air clean and your fuel costs down!

Biennial emissions are now required for vehicles commuting into Bernalillo County more than 60 times a year. Call 764-1110 for more information

Martin J. Chávez, Mayor

Environmental Health Department
Air Quality & Vehicle Pollution Management

Alfredo R. Santistevan
Director

Notice to persons with disabilities: If you have a disability and require special assistance, please call (505) 768-2600 (voice). TTY users, please call the New Mexico Relay at 1-800-659-8331.

Raising Air to a Higher Quality

MAIL TO:

We'd Like To Hear From You With Comments On This Newsletter!
Please Call The Education, Outreach & Technical Assistance Section At 768-1941.